

**UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF TEXAS
DALLAS DIVISION**

COMMSCOPE TECHNOLOGIES)	
LLC,)	
)	No. 3:16-cv-477
Plaintiff,)	
)	
v.)	Jury Trial Demanded
)	
DALI WIRELESS, INC.,)	
Defendant.)	

COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff CommScope Technologies LLC (“CommScope”) brings this action against Defendant Dali Wireless, Inc. (“Dali”) and alleges as follows:

Nature of the Case

1. This is an action for patent infringement of four patents: (1) United States Patent No. 8,326,218 (“the ‘218 patent”), (2) United States Patent No. 7,639,982 (“the ‘982 patent”), (3) United States Patent No. 8,577,286 (“the ‘286 patent”), and (4) United States Patent No. 7,848,747 (“the ‘747 patent”). These patents (“patents-in-suit”) relate to digital distributed antenna systems.

2. Defendant Dali has been selling a “t-Series” digital distributed antenna system that infringes the patents-in-suit and has been publicizing that it has contracted to provide an infringing system in this district to the Dallas/Fort Worth International Airport. Plaintiff CommScope seeks damages and an injunction against any further infringement of its patents by Dali.

Parties

3. CommScope, formerly known as Andrew LLC, is a Delaware company, headquartered in Hickory, North Carolina with a regional place of business in this district in Richardson, Texas. Together with its affiliated companies, CommScope designs, manufactures, and sells telecommunications products and equipment around the world. CommScope's innovative products are used to build network infrastructures that enable wired and wireless communications. CommScope's products can be found in large buildings, venues and outdoor spaces; in data centers and buildings of all shapes, sizes and complexity; at wireless cell sites; in telecom central offices and cable headends; in FTTx deployments; and in airports, trains, and tunnels.

4. Defendant Dali is a Delaware company. Upon information and belief, Dali conducts business in this district and has a place of business at 535 Middlefield Road, Ste 280, Menlo Park, CA 94025.

Jurisdiction and Venue

5. This action arises under the Patent Act, 35 U.S.C. § 271 *et seq.*

6. This Court has subject matter jurisdiction under 28 U.S.C. §§ 1331 and 1338(a).

7. This Court has personal jurisdiction over Dali. Upon information and belief, Dali does business and has committed the tort of patent infringement of the patents-in-suit in this state, including this district. As one example, Dali has offered for sale and/or sold its t-Series digital distributed antenna system to the Dallas/Fort Worth International Airport in this district, and upon information and belief, Dali employs

personnel in this district. As another example, Dali is registered to do business with the Texas Secretary of State and solicits orders in this district via its website.

8. Venue is proper in this district under 28 U.S.C. §§ 1391 and 1400(b). As set forth above, Dali resides in this district and has committed acts of infringement in this district.

Background and Patents-in-Suit

9. The subject matter of this complaint is distributed antenna systems, commonly referred to as DAS, DAS networks, DAS products, or DAS systems. Distributed antenna systems are typically used to extend or improve wireless communications coverage in areas that are difficult for signals from traditional communications towers and antennas to reach. For example, signals from distant communications towers may not penetrate inside buildings or into tunnels or may not reach other blind spots blocked or covered by geographic features such as hills, buildings or valleys. Distributed antenna systems are deployed inside these blind spots. Distributed antenna systems typically receive communication signals from a base station (or cellular tower), transport those signals using cables to a collection of smaller antennas that have been distributed inside the building or targeted coverage area, and rebroadcast the wireless signals into the targeted area to wireless units such as mobile phones. The systems also transport communication signals in the opposite direction. That is, they receive wireless communications from, for example, mobile phones within the targeted coverage area and transport those signals over cabling back to the communications tower or base station.

10. CommScope and its wholly owned subsidiary, CommScope Connectivity LLC, formerly known as ADC Telecommunications, Inc., (“ADC”), the original assignee of the patents-in-suit, are recognized innovators in the field of distributed antenna systems. Employees of ADC developed inventions for deploying digital technologies in distributed antenna systems. ADC’s innovations for digital transport of signals in a distributed antenna system include the inventions in the patents-in-suit.

11. CommScope is the owner of the entire right, title, and interest in and to U.S. Patent No. 8,326,218 (“the ‘218 patent”), which duly and legally issued on December 4, 2012. The ‘218 patent is entitled “Point-to-multipoint digital radio frequency transport.” A copy of the ‘218 patent is attached as Exhibit A.

12. CommScope is the owner of the entire right, title, and interest in and to U.S. Patent No. 7,639,982 (“the ‘982 patent”), which duly and legally issued on December 29, 2009. The ‘982 patent is entitled “Point-to-multipoint digital radio frequency transport.” A copy of the ‘982 patent is attached as Exhibit B.

13. CommScope is the owner of the entire right, title, and interest in and to U.S. Patent No. 8,577,286 (“the ‘286 patent”), which duly and legally issued on November 5, 2013. The ‘286 patent is entitled “Point-to-multipoint digital radio frequency transport.” A copy of the ‘286 patent is attached as Exhibit C.

14. CommScope is the owner of the entire right, title, and interest in and to United States Patent No. 7,848,747 (“the ‘747 patent”) which duly and legally issued on December 7, 2010. The ‘747 patent is entitled “System and method for enhancing the

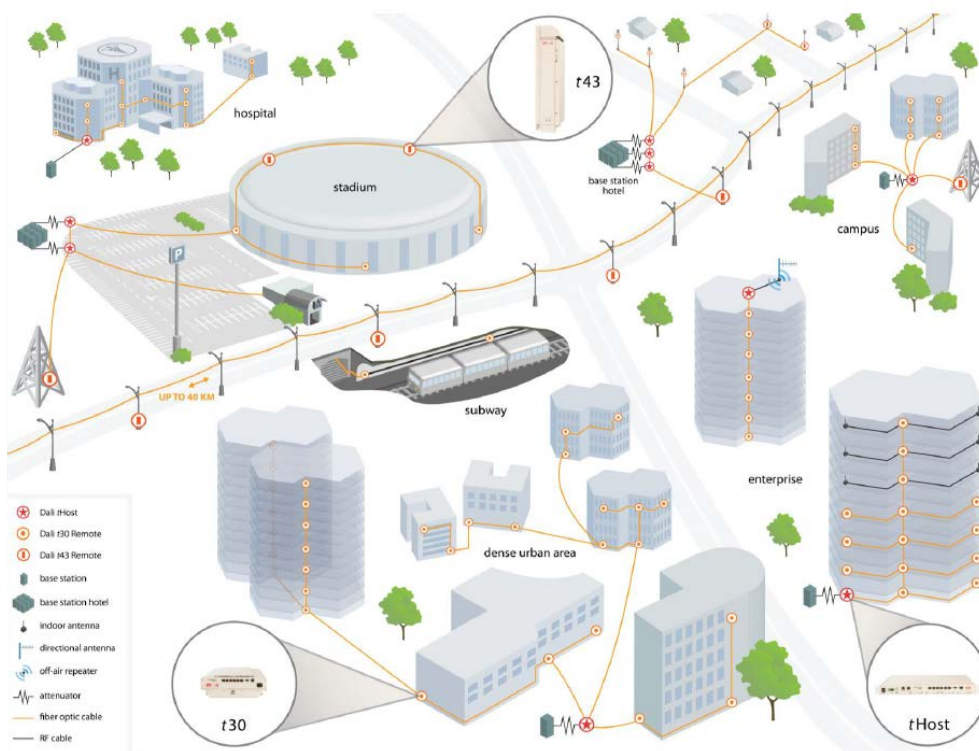
performance of wideband digital RF transport systems.” A copy of the ‘747 patent is attached as Exhibit D.

Dali’s Infringing Products and Activities

15. Dali has committed acts of patent infringement by making, using, selling, offering for sale, and/or importing into the United States its “t-Series” digital distributed antenna systems. Dali’s infringing t-Series DAS includes both host units and remote units. Dali’s infringing t-Series host units are marketed under the product name tHost and/or RF Routers. Dali’s infringing t-Series system includes multiple remote antenna units which are marketed, for example, and without limitation, using the product numbers t30, t37, and/or t43.

16. Attached as Exhibits E, F, and G are copies of Dali literature describing its t-Series distributed antenna system. Exhibit E is Dali’s “Installation & Operation Guide” for the tHost unit and t30 remote unit. Exhibit F is Dali’s “System Overview” for the t-Series distributed antenna system. Exhibit G is Dali’s data sheet for the tHost unit.

17. Dali’s t-Series distributed antenna system is a quad-band digital-over-fiber distributed antenna system that delivers mobile coverage and capacity for voice and high speed data wireless networks. In Exhibit F, Dali illustrates its t-Series as follows:



18. Typical network configurations of Dali's t-Series include a tHost and multiple t30 remote units (or other Dali remote antenna units identified above). In Exhibit F, Dali describes the following figure as "a typical network configuration" for its t-Series distributed DAS system. The typical configuration depicted includes a tHost unit connected to base transceiver stations (BTSs) and multiple remote antenna units, for example, t30 units and/or t43 units.

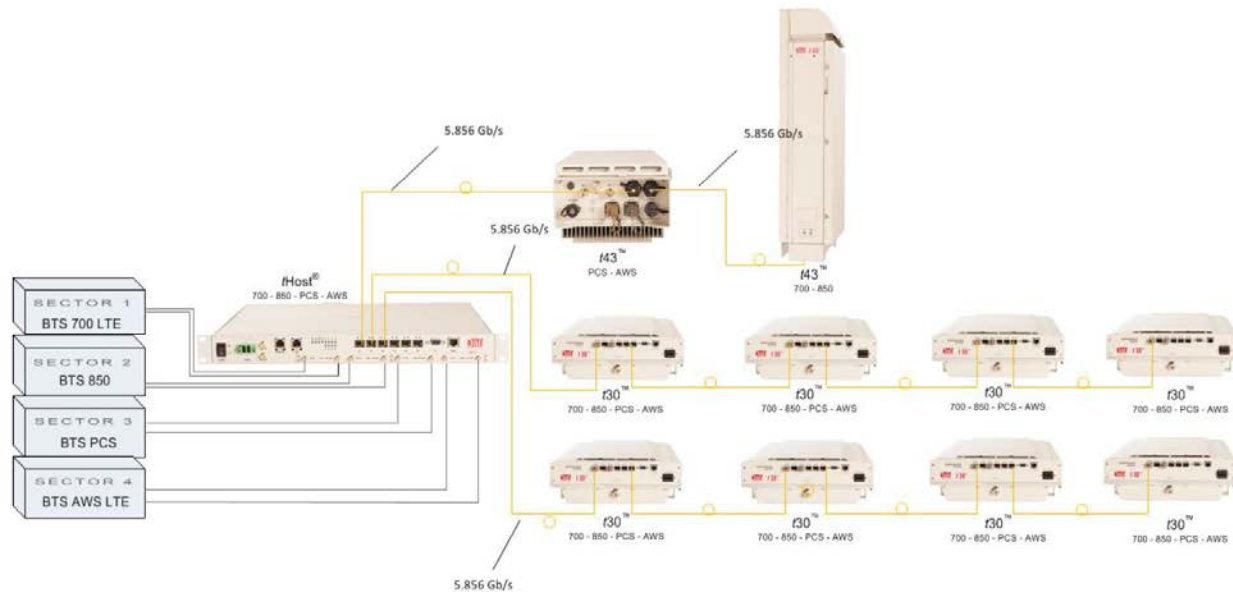


Figure 2. A typical network configuration serving four wireless bands in a daisy-chain configuration.

The ‘218 Patent

19. By its activities related to making, using, selling, offering for sale, and/or importing in or into the United States its t-Series distributed antenna systems Dali has infringed and continues to infringe claim 1 and other claims of the '218 patent.

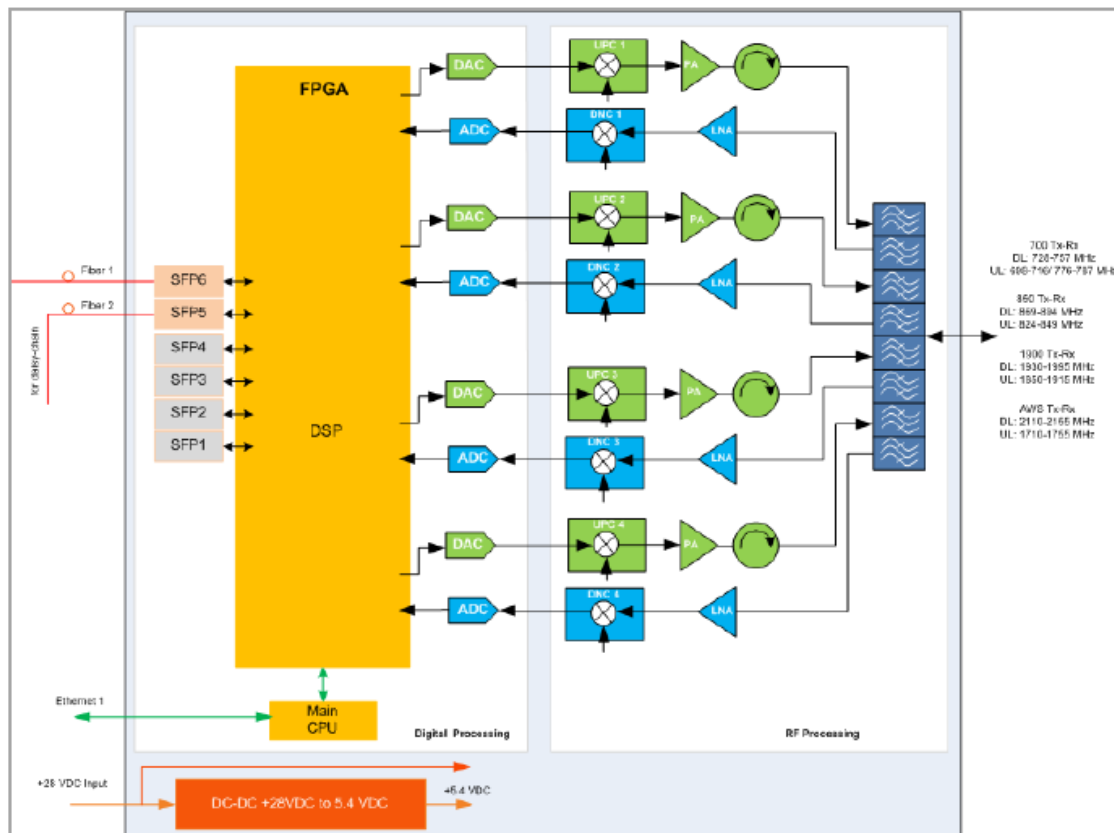
20. As shown above, Dali's t-Series distributed antenna system is a system for wireless radio frequency signal distribution within a coverage area in which one or more wireless units wirelessly transmit in an upstream wireless radio frequency spectrum. The figure from Exhibit F shown above under paragraph 17 illustrates how remote units in Dali's t-Series system are distributed within and associated with a coverage area (e.g., a building) for receiving radio frequency transmissions from wireless units such as cell phones located in the coverage area.

21. Dali’s “tHost” unit satisfies the limitations of the “host unit” recited in Claim 1 of the ‘218 patent.

22. Dali's "t30" unit satisfies the limitations of the "remote unit" recited in Claim 1 of the '218 patent.

23. To operate the t-Series system, the tHost and t30 units are communicatively coupled via a communication medium, e.g., as shown above using fiber optic cables.

24. In Exhibit E, Dali illustrates the design of the t30 remote unit as follows:



Ex. E at 6.

25. In use, each of the t30 remote units in Dali's t-Series distributed antenna system receives a respective original upstream analog wireless signal comprising upstream radio frequency spectrum and any upstream transmissions from any of the wireless units that are within the portion of the coverage area associated with that remote

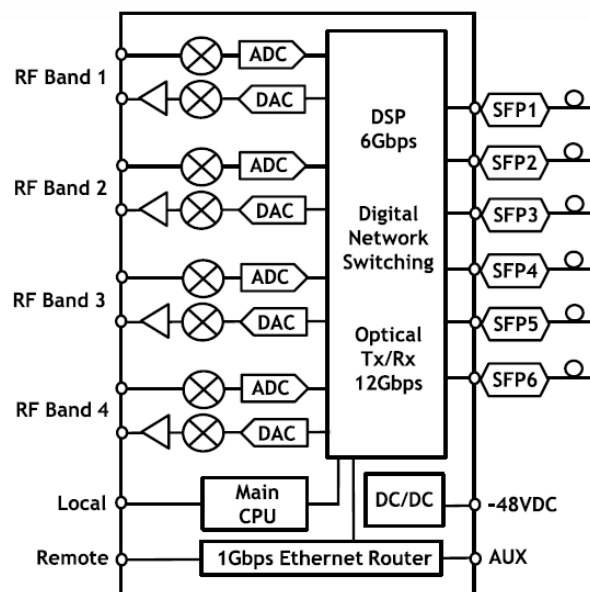
unit. Examples of the upstream radio frequency spectrum received by Dali's t30 remote units are in the figure above on the right.

26. In use, each of the t30 remote units in Dali's t-Series distributed antenna system generates respective upstream digital RF samples indicative of the respective original upstream analog wireless signal received at that remote unit. As shown above, Dali's t30 remote units include analog to digital converters that generate digital samples indicative of radio frequency signals received by the t30 remote unit.

27. In use, each of the t30 remote units in Dali's t-Series distributed antenna system communicates the respective upstream digital RF samples generated by that remote unit to the tHost unit. As shown above, Dali's t30 remote units each communicate digitized signals indicative of their received radio frequency signals to the tHost via a communication medium, e.g., fiber optic cables.

28. In Exhibit G, Dali illustrates the design of the tHost as follows:

Block Diagram



29. The DSP block (of the FPGA) of the tHost unit, indicated in the above figure, is configured to digitally sum corresponding upstream digital RF samples received from a plurality of remote units to produce summed upstream digital RF samples.

30. The tHost unit is configured to convert the summed upstream digital RF samples to a replicated upstream analog wireless radio frequency signal. As shown above, the tHost includes digital to analog converters after the DSP.

The '982 Patent

31. By its activities related to making, using, selling, offering for sale, and/or importing in or into the United States its t-Series distributed antenna systems Dali has infringed and continues to infringe claim 1 and other claims of the '982 patent.

32. Dali's t-Series distributed antenna system is a digital radio frequency transport system. As stated in Exhibit F, "The Dali Wireless distribution system is a network that transports RF signal from a base station to a remote location. This is enabled by transferring RF signals into a digital data stream in the host and transported via optical fiber to a designated remote location."

33. Dali's "tHost" unit satisfies the limitations of the "digital host unit" recited in Claim 1 of the '982 patent.

34. Dali's "t30" units satisfy the limitations of the "digital remote units" recited in Claim 1 of the '982 patent.

35. As shown, for example, under paragraph 18 above, a typical network configuration for Dali's t-Series distributed antenna system includes at least two t30 units (and/or other Dali digital remote units) coupled to the tHost via fiber optic cables.

36. The tHost includes shared circuitry that performs bi-directional simultaneous digital radio frequency distribution of digitized radio frequency signals between itself and its remote antenna units. In Exhibit G, Dali states: “The tHost accepts the input from a wireless carrier’s base station and bidirectionally transmits and receives four separate wireless bands to Dali t30™ Series or t43™ Series remote transceivers. It can support up to six independent optical fibers.” Consistent with the illustration below from Exhibit E, the tHost includes circuitry shared by multiple remote antenna units.

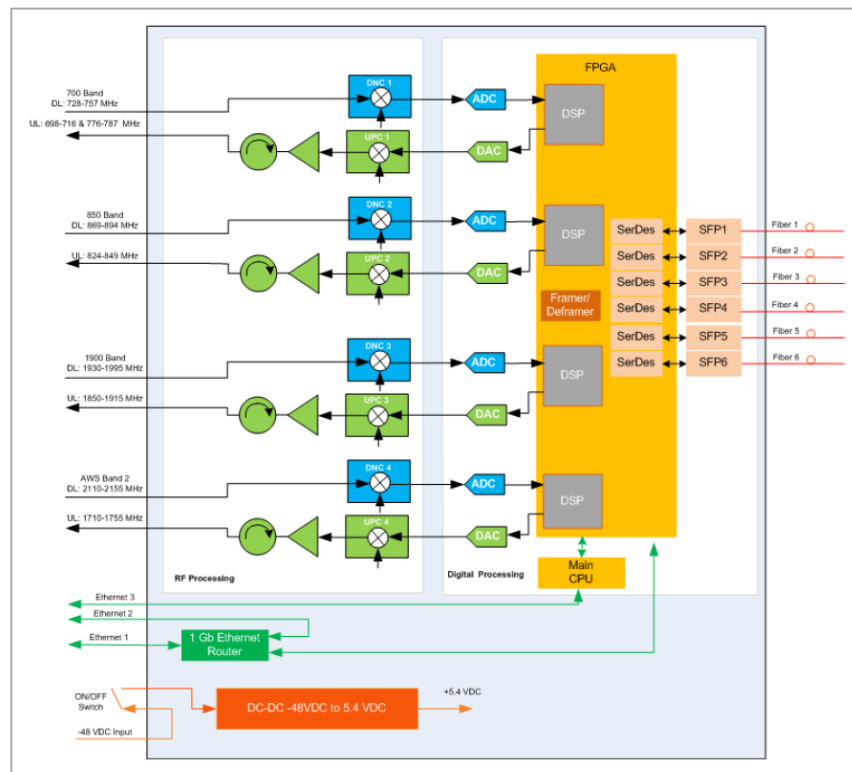


Figure 1-3 tHost Unit Functional Diagram

37. The DSP block in the FPGA of the tHost unit, indicated in the figure under paragraph 28 above and in the figure under paragraph 36 above, digitally sums the digitized radio frequency signals received at the digital host unit.

The '286 Patent

38. By its activities related to making, using, selling, offering for sale, and/or importing in or into the United States its t-Series distributed antenna systems Dali has infringed and continues to infringe claim 1 and other claims of the '286 patent.

39. Dali's t-Series distributed antenna system is a system for use with a coverage area in which one or more wireless units wirelessly transmit using a wireless radio frequency spectrum. Dali's illustration shown above under paragraph 17 shows a system for use with a coverage area (e.g., a building) in which one or more wireless units wirelessly transmit using a wireless radio frequency spectrum.

40. Dali's "tHost" unit satisfies the limitations of the "first unit" recited in Claim 1 of the '286 patent.

41. Dali's "t30" units satisfy the limitations of the "second units" recited in Claim 1 of the '286 patent.

42. Typical configurations of the Dali t-Series system include a tHost and multiple t30 remote units that are communicatively coupled via a communication medium, e.g., fiber optic cables, and each t30 unit is associated with a portion of the coverage area (e.g., a floor of a multi-story building).

43. In use, each t30 unit receives a respective analog wireless signal comprising the radio frequency spectrum and any transmissions from any of the wireless units that are within the portion of the coverage area associated with it.

44. In use, each t30 unit generates digital RF samples indicative of the analog wireless signal received at that unit.

45. In use, each t30 unit communicates digital RF samples indicative of the analog wireless signal to the tHost using the at least one communication medium, e.g., fiber optic cables.

46. As indicated above, the DSP block in the FPGA of the tHost unit, indicated in the figure under paragraph 28 above and in the figure under paragraph 36 above, digitally sums corresponding digital RF samples received from the t30 units to produce summed digital RF samples.

47. Dali's t-Series system is configured so that an input used for base station processing is derived from the summed digital RF samples. As indicated in the figure from Exhibit F shown under paragraph 18 above, the tHost converts the summed digital RF samples from digital to analog and ultimately communicates a corresponding analog signal upstream for base station processing. The figure shows at left the base station units that receive and process the analog signal.

The '747 patent

48. By its activities related to making, using, selling, offering for sale, and/or importing in or into the United States its t-Series distributed antenna systems Dali has infringed and continues to infringe claim 7 and other claims of the '747 patent.

49. The "tHost" in Dali's t-Series distributed antenna system satisfies the limitations recited for the host unit in Claim 7 of the '747 patent.

50. As noted in Exhibit G, Dali's tHost is a digital RF network router and programmable software platform that forms the head-end of the t-Series network. The tHost accepts the input from a wireless carrier's base station and bidirectionally transmits

and receives four separate wireless bands to Dali t30™ Series or t43™ Series remote transceivers.

51. As shown in Exhibit E, at least some of Dali's tHost units are configured to operate on up to four bands in the downlink, including the following four RF frequency bands: 728-757 MHz, 869-894 MHz, 1930-1995 MHz, and 2110-2155 MHz. These four bands are identified in Table A-1 of Exhibit E, an excerpt of which is shown below.

Table A-1 Dali Quad-Band DAS Product Specifications

Optical	
Wavelength	1310 nm and 1550 nm
Maximum Optical Loss	up to 21 dBo
Optical Ports	t Host: 6 x LC/UPC t 30: 2 x LC/UPC
Optical Fiber	One SMF 9/125 µm
Optical Transport Data Rate	5.856 Gbps
Radio Frequency (RF)	
Frequency UL band	698 - 716 776 - 787 824 - 849 1850 - 1915 1710 - 1755 MHz
Frequency DL band	728 - 757 869 - 894 1930 - 1995 2110 - 2155 MHz
Instantaneous Bandwidth	Full band (65 MHz)

52. Dali illustrates the functional design of the tHost in Exhibit E, for example as shown in the illustration under paragraph 36 above.

53. Dali's tHost unit is a host unit for wideband digital RF transport.

54. Dali's tHost unit includes a plurality of inputs where each input is configured to receive a broadband RF signal. The inputs include coaxial cable connectors on the front of the tHost unit for coupling the tHost to the RF output of a base station.

55. Four downlink RF bands, that at least some of Dali's tHost units are configured to receive at their inputs, are indicated at left in the illustration from Exhibit E, shown above in Paragraph 36.

56. Dali's tHost units include multiple analog to digital converter circuits that are each coupled to a selected one of the tHost downlink inputs. Multiple analog to digital

converters are indicated, for example, in the illustration from Exhibit G, shown above in Paragraph 28.

57. The analog to digital converter circuits in Dali's tHost units each generate a digital sample stream. Some of the analog to digital converter circuits in Dali's tHost units include digital down conversion that reduces the sample rate of some sample streams so that the resulting sample rates are related to a signal bandwidth of its associated broadband RF signal.

58. Dali's tHost units shift received RF downlink frequency bands to intermediate frequency before digitizing the downlink bands.

59. Dali's tHost units include Analog Devices AD9627 analog to digital converters for digitizing downstream signals. The AD9627 analog to digital converters operate at a sampling rate of 146.4 Msps.

60. At least some Dali tHost units include an FPGA configured to digitally downconvert the sample rate of digital sample streams corresponding to the 728-757 MHz and 869-894 MHz downlink frequency bands received by the tHost unit.

61. The FPGA in at least some of Dali's tHost units does not digitally downconvert the sample rate of digital sample streams corresponding to the 1930-1995 MHz and 2110-2155 MHz downlink frequency bands received by the tHost unit by the same amount as the sample streams corresponding to the 728-757 MHz and 869-894 MHz downlink frequency bands.

62. At least some tHost units are configured so that after all digital down conversion of downlink signals in the tHost unit is completed, the sample rate of the

1930-1995 MHz and 2110-2155 MHz downlink frequency bands is different than the sample rate for the 728-757 MHz and 869-894 MHz downlink frequency bands.

63. Dali's tHost unit includes a Xilinx FPGA that performs digital signal processing, framer/deframer, serializer/deserializer, digital down and up conversion (DDC and DUC).

64. Dali's tHost unit includes a multiplexer circuit for multiplexing together the sample streams that correspond to the downlink signals received by the tHost into one serial bit stream at a fixed bit rate.

65. Dali's tHost unit has an optical transport data rate of 5.856 Gbps.

Dali's Knowledge of the Patents-in-Suit

66. Upon information and belief, Dali knew about the patents-in-suit prior to the filing of this complaint or was willfully blind to them.

67. Multiple of Dali's high-level employees are former employees of the original assignee of the patents-in-suit, ADC, and these employees would have known from their former employment that ADC had patents and was seeking additional patents related to ADC's DAS technology, including the patents-in-suit (and/or their related parent patents and applications). For example, Dali's Vice President of Sales, Americas (Lance Craft) and Vice President of Technology and Market Development (Gary Spedaliere) are former employees of ADC who worked in the area of distributed antenna system technology while at ADC. Dali itself touts that its Vice President of Sales is a former ADC employee who focused on "Distributed Antenna Systems (DAS)" while at ADC. See <http://daliwireless.com/dali-wireless-appoints-lance-craft-vice-president->

sales-americas/. At a tradeshow in April of 2015, an officer of Dali, in a conversation with the inventor of the patents-in-suit specifically referred to ADC's patents on digital DAS systems.

68. Furthermore, ADC is a large, well-known source of DAS systems. Materials on Dali's website describe ADC's former and current parents as "dominant players" in Dali's market. http://daliwireless.com/wp-content/uploads/2014/10/Monolithic_to_modular__Dali_Wireless_Matrix_distri-updated.pdf. In addition, Dali is aware that ADC's DAS products incorporate patented technology.

69. In view of the above, upon information and belief, Dali knew about the patents-in-suit prior to the filing of this complaint or were willfully blind to them

70. At least as of receiving notice of this complaint, Dali will have knowledge of the patents-in-suit.

Count 1
Claim for Patent Infringement of U.S. Patent No. 8,326,218

71. CommScope incorporates by reference each of the paragraphs above as if fully stated herein.

72. Dali directly infringes, literally and under the doctrine of equivalents claims of the '218 patent, including, for example, and without limitation, claim 1, through its making, using, selling, offering for sale, and/or importing its digital distributed antenna systems including the t-Series distributed antenna system. The infringing t-Series system includes the tHost units and the remote antenna units that operate with the tHost units, including, without limitation, the t30, t34, and/or t43 remote units.

73. Dali also indirectly infringes claims of the '218 patent, including, for example, and without limitation, claim 1. Operators of Dali's t-Series digital distributed antenna system directly infringe at least some claims of the '218 patent. Upon information and belief, Dali knows its products are especially made or especially adapted for use in an infringement. As stated above, upon information and belief, Dali knew about the '218 patent prior to this complaint, and Dali indisputably knows about the '218 patent as of receipt of this complaint. Further, Dali knows its products are made to be used in distributed antenna systems that result in infringement.

74. Dali's products include features that are not staple articles of commerce suitable for substantial noninfringing uses. For example, there is no substantial use for the optical ports on the tHost and remote units other than to communicatively couple each remote to a host tHost unit using a communication medium (optical fiber). In addition, there is no substantial non-infringing use for the FPGA programming that digitally sums upstream samples from multiple remote units. The intended, normal use of such features results in infringement. Such features, and Dali's products, are a material part of the invention of the '218 patent. Upon information and belief, Dali's products are also sold, offered for sale, and used in configurations that do not have substantial non-infringing uses.

75. Dali has actively induced others, including its customers, to infringe claims of the '218 patent, including, but not limited to claim 1. For example, through Dali's product literature for its t-Series distributed antenna system, examples of which are attached as Exhibits E-G, Dali has instructed and encouraged its customers and the

operators of its t-Series distributed antenna system to build and use the t-Series system by coupling Dali's tHost units to Dali's remote antenna units, such as the t30 units, using optical fiber cables in a manner that results in direct infringement of the '218 patent. There is no other substantial use for these units other than to be coupled to each other using optical fiber cables. Dali's product literature encourages its customers to arrange remote units into a star configuration with the tHost, an arrangement that results in digital summation in the tHost in a manner that directly infringes the '218 patent. As set out above, Dali has knowledge of the patents-in-suit, and Dali gives instructions and encouragement to its customers to assemble and use its t-Series distributed antenna system using optical fiber cabling in a star topology, with the specific intent, knowledge or willful blindness to the fact that doing so would constitute direct infringement of the '218 patent.

76. Dali's infringement is willful. There is an objectively high likelihood that Dali's actions constitute infringement of the '218 patent. There is not a substantial defense in this case, and the '218 patent is presumed valid. The high likelihood was known or should have been known to Dali. Dali is a patent-aware company. Its own CEO is a registered patent attorney. As set forth above, Dali knew or should have known about the '218 patent and that its products have the same subject matter covered by the '218 patent. The likelihood of infringement was particularly apparent because Dali entered the digital DAS market well after the invention of the '218 patent, and Dali knew or should have known the '218 patent is presumed valid. Despite the foregoing, Dali did not request a license, but rather continued its infringing activities.

77. CommScope has been damaged by Dali's infringement of the '218 patent and will continue to be damaged in the future unless Dali is enjoined from infringing the '218 patent.

78. CommScope has satisfied the notice or marking provisions of 35 U.S.C. § 287.

Count 2
Claim for Patent Infringement of U.S. Patent No. 7,639,982

79. CommScope incorporates by reference each of the paragraphs above as if fully stated herein.

80. Dali directly infringes, literally and under the doctrine of equivalents, claims of the '982 patent, including, for example, and without limitation, claim 1, through its making, using, selling, offering for sale, and/or importing its digital distributed antenna systems including the t-Series distributed antenna system. The infringing t-Series system includes the tHost units and the remote antenna units that operate with the tHost units, including, without limitation, the t30, t34, and/or t43 remote units.

81. Dali also indirectly infringes claims of the '982 patent, including, for example, and without limitation, claim 1. Operators of Dali's t-Series digital distributed antenna system directly infringe at least some claims of the '982 patent, including, without limitation, claim 1. Upon information and belief, Dali knows its products are especially made or especially adapted for use in an infringement. As stated above, upon information and belief, Dali knew about the '982 patent prior to this complaint, and Dali indisputably knows about the '982 patent as of receipt of this complaint. Further, Dali

knows its products are made to be used in distributed antenna systems that result in infringement.

82. Dali's products include features that are not staple articles of commerce suitable for substantial noninfringing uses. For example, there is no substantial use for the optical ports on the tHost and remote units other than to communicatively couple each remote to a host tHost unit using a communication medium (optical fiber). In addition, there is no substantial non-infringing use for the FPGA programming that digitally sums upstream samples from multiple remote units. The intended, normal use of such features results in infringement. Such features, and Dali's products, are a material part of the invention of the '982 patent. Upon information and belief, Dali's products are also sold, offered for sale, and used in configurations that do not have substantial non-infringing uses.

83. Dali has actively induced others, including its customers, to infringe claims of the '982 patent, including, but not limited to claim 1. For example, through Dali's product literature for its t-Series distributed antenna system, examples of which are attached as Exhibits E-G, Dali has instructed and encouraged its customers and the operators of its t-Series distributed antenna system to build and use the t-Series system by coupling Dali's tHost units to Dali's remote antenna units, such as the t30 units, using optical fiber cables in a manner that results in direct infringement of the '982 patent. There is no other substantial use for these units other than to be coupled to each other using optical fiber cables. Dali's product literature encourages its customers to arrange remote units into a star configuration with the tHost, an arrangement that results

in digital summation in the tHost in a manner that directly infringes the '982 patent. As set out above, Dali has knowledge of the patents-in-suit, and Dali gives instructions and encouragement to its customers to assemble and use its t-Series distributed antenna system using optical fiber cabling in a star topology, with the specific intent, knowledge or willful blindness to the fact that doing so would constitute direct infringement of the '982 patent.

84. Dali's infringement is willful. There is an objectively high likelihood that Dali's actions constitute infringement of the '982 patent. There is not a substantial defense in this case, and the '982 patent is presumed valid. The high likelihood was known or should have been known to Dali. Dali is a patent-aware company. Its own CEO is a registered patent attorney. As set forth above, Dali knew or should have known about the '982 patent and that its products have the same subject matter covered by the '982 patent. The likelihood of infringement was particularly apparent because Dali entered the digital DAS market well after the invention of the '982 patent, and Dali knew or should have known the '982 patent is presumed valid. Despite the foregoing, Dali did not request a license, but rather continued its infringing activities.

85. CommScope has been damaged by Dali's infringement of the '982 patent and will continue to be damaged in the future unless Dali is enjoined from infringing the '982 patent.

86. CommScope has satisfied the notice or marking provisions of 35 U.S.C. § 287.

Count 3
Claim for Patent Infringement of U.S. Patent No. 8,577,286

87. CommScope incorporates by reference each of the paragraphs above as if fully stated herein.

88. Dali directly infringes, literally and under the doctrine of equivalents, claims of the '286 patent, including, for example, and without limitation, claim 1, through its making, using, selling, offering for sale, and/or importing its digital distributed antenna systems including the t-Series distributed antenna system. The infringing t-Series system includes the tHost units and the remote antenna units that operate with the tHost units, including, without limitation, the t30, t34, and/or t43 remote units.

89. Dali also indirectly infringes claims of the '286 patent, including, for example, and without limitation, claim 1. Operators of Dali's t-Series digital distributed antennae system directly infringe at least some claims of the '286 patent, including, without limitation, claim 1. Upon information and belief, Dali knows its products are especially made or especially adapted for use in an infringement. As stated above, upon information and belief, Dali knew about the '286 patent prior to this complaint, and Dali indisputably knows about the '286 patent as of receipt of this complaint. Further, Dali knows its products are made to be used in distributed antenna systems that result in infringement.

90. Dali's products include features that are not staple articles of commerce suitable for substantial noninfringing uses. For example, there is no substantial use for the optical ports on the tHost and remote units other than to communicatively couple each

remote to a host tHost unit using a communication medium (optical fiber). In addition, there is no substantial non-infringing use for the FPGA programming that digitally sums upstream samples from multiple remote units. The intended, normal use of such features results in infringement. Such features, and Dali's products, are a material part of the invention of the '286 patent. Upon information and belief, Dali's products are also sold, offered for sale, and used in configurations that do not have substantial non-infringing uses.

91. Dali has actively induced others, including its customers, to infringe claims of the '286 patent, including, but not limited to claim 1. For example, through Dali's product literature for its t-Series distributed antenna system, examples of which are attached as Exhibits E-G, Dali has instructed and encouraged its customers and the operators of its t-Series distributed antenna system to build and use the t-Series system by coupling Dali's tHost units to Dali's remote antenna units, such as the t30 units, using optical fiber cables in a manner that results in direct infringement of the '286 patent. There is no other substantial use for these units other than to be coupled to each other using optical fiber cables. Dali's product literature encourages its customers to arrange remote units into a star configuration with the tHost, an arrangement that results in digital summation in the tHost in a manner that directly infringes the '286 patent. As set out above, Dali has knowledge of the patents-in-suit, and Dali gives instructions and encouragement to its customers to assemble and use its t-Series distributed antenna system using optical fiber cabling in a star topology, with the specific intent, knowledge

or willful blindness to the fact that doing so would constitute direct infringement of the ‘286 patent.

92. Dali’s infringement is willful. There is an objectively high likelihood that Dali’s actions constitute infringement of the ‘286 patent. There is not a substantial defense in this case, and the ‘286 patent is presumed valid. The high likelihood was known or should have been known to Dali. Dali is a patent-aware company. Its own CEO is a registered patent attorney. As set forth above, Dali knew or should have known about the ‘286 patent and that its products have the same subject matter covered by ‘286 patent. The likelihood of infringement was particularly apparent because Dali entered the digital DAS market well after the invention of the ‘286 patent, and Dali knew or should have known the ‘286 patent is presumed valid. Despite the foregoing, Dali did not request a license, but rather continued its infringing activities.

93. CommScope has been damaged by Dali’s infringement of the ‘286 patent and will continue to be damaged in the future unless Dali is enjoined from infringing the ‘286 patent.

94. CommScope has satisfied the notice or marking provisions of 35 U.S.C. § 287.

Count 4
Claim for Patent Infringement of U.S. Patent No. 7,848,747

95. CommScope incorporates by reference each of the paragraphs above as if fully stated herein.

96. Dali directly infringes, literally and under the doctrine of equivalents, claims of the '747 patent, including, for example, and without limitation, claim 7, through its making, using, selling, offering for sale, and/or importing its digital distributed antenna system including the t-Series distributed antenna system. The infringing t-Series system includes the tHost units and the remote antenna units that operate with the tHost units, including, without limitation, the t30, t34, and/or t43 remote units.

97. Dali also indirectly infringes claims of the '747 patent, including, for example, and without limitation, claim 7. Operators of Dali's t-Series digital distributed antennae system products directly infringe the '747 patent, including, without limitation, claim 7. Upon information and belief, Dali knows these products are especially made or especially adapted for use in an infringement. As stated above, upon information and belief, Dali knew about the '747 patent prior to this complaint, and Dali indisputably knows about the '747 patent as of receipt of this complaint. Further, Dali knows its products are made to be used in distributed antenna systems that result in infringement.

98. As shown above, Dali's products are a material part of the invention of the '747 patent. Dali's products include features that are not staple articles of commerce suitable for substantial noninfringing uses. For example, the functionality for quad-band communication including the 728-757 MHz, 869-894 MHz, 1930-1995 MHz, and 2110-2155 MHz bands and the FPGA configuration to differently digitally downconvert the sampling rate of these bands have no substantial non-infringing use. The intended, normal use of such features results in infringement. Such features, and Dali's products, are a material part of the invention of the '747 patent. Upon information and belief,

Dali's products are also sold, offered for sale, and used in configurations that do not have substantial non-infringing uses.

99. Dali has actively induced others, including its customers, to infringe claims of the '747 patent, including, but not limited to claim 7. For example, through Dali's product literature for its t-Series distributed antenna system, examples of which are attached as Exhibits E-G, Dali has instructed and encouraged its customers and the operators of its t-Series distributed antenna system to build and use the t-Series system by coupling Dali's tHost units to a base station and to Dali's remote antenna units, such as the t30 units, to support multiple separate RF frequency bands in a manner that results in direct infringement of the '747 patent. There is no other substantial use for these tHost units other than to be coupled to an RF signal source and to remote antenna units. Dali's product literature encourages its customers to use Dali's t-Series distributed antenna system in multi-band configurations in which the tHost unit differently digitally downconverts the sampling rate of these bands in a manner that directly infringes the '747 patent. As set out above, Dali has knowledge of the patents-in-suit, and Dali gives instructions and encouragement to its customers to use its t-Series distributed antenna system in a quad-band configuration, with the specific intent, knowledge or willful blindness to the fact that doing so would constitute direct infringement of the '747 patent.

100. Dali's infringement is willful. There is an objectively high likelihood that Dali's actions constitute infringement of the '747 patent. There is not a substantial defense in this case, and the '747 patent is presumed valid. The high likelihood was known or it should have been known to Dali. Dali is a patent-aware company. Its own

CEO is a registered patent attorney. As set forth above, Dali knew or should have known about the '747 patent and that its products have the same subject matter covered by '747 patent. The likelihood of infringement was particularly apparent because Dali entered the digital DAS market well after the invention of the '747 patent, and Dali knew or should have known the '747 patent is presumed valid. Despite the foregoing, Dali did not request a license, but rather continued its infringing activities.

101. CommScope has been damaged by Defendants' infringement of the '747 patent and will continue to be damaged in the future unless Dali is enjoined from infringing the '747 patent.

102. CommScope has satisfied the notice or marking provisions of 35 U.S.C. § 287.

Prayer for Relief

CommScope respectfully requests the following relief:

A. A judgment that Dali has infringed the '218 patent, the '982 patent, the '286 patent, and the '747 patent;

B. Both preliminary and permanent injunctions enjoining and restraining Defendant Dali, its officers, directors, agents, servants, employees, attorneys and all persons in active concert or participation with them from infringing the '218 patent, the '982 patent, the '286 patent, and the '747 patent;.

C. A judgment and order requiring Dali to pay all appropriate damages under 35 U.S.C. § 284, including prejudgment and post-judgment interest, and including increased damages for its willful infringement;

D. A judgment and order requiring Dali to pay all costs of this action, including all disbursements and attorney fees, if this case is found to be exceptional as provided by 35 U.S.C. § 285; and

E. Such other and further relief that this Court may deem just and equitable.

Demand for a Jury Trial

Pursuant to Rule 38 of the Federal Rules of Civil Procedure, CommScope demands a trial by jury of all issues so triable.

Respectfully submitted.

DANIEL SHEEHAN PLLC

DATE: February 19, 2016

By: /s/Daniel J. Sheehan
DANIEL J. SHEEHAN
State Bar No. 18174500
Campbell Centre II, Suite 100
8150 N. Central Expressway
Dallas, Texas 75206
(214) 468-8899 Telephone
(214) 468-8803 Facsimile
dsheehan@dsa-law.com

OF COUNSEL

(Pro Hac Vice Admission to be Requested)

PHILIP P. CASPERS
pcaspers@carlsoncaspers.com
TIMOTHY A. LINDQUIST
tlindquist@carlsoncaspers.com
SAMUEL A. HAMER
shamer@carlsoncaspers.com
WILLIAM F. BULLARD

wbullard@carlsoncaspers.com
CARLSON, CASPERS, VANDENBURGH
LINDQUIST & SCHUMAN, P.A.
225 South Sixth Street, Suite 4200
Minneapolis, Minnesota 55402
(612) 436-9600 Telephone
(612) 436-9605 Facsimile

Attorneys for Plaintiff
CommScope Technologies LLC